

May 4, 2009

Reply to the Office Action dated February 5, 2009

Page 2 of 7

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-7 (canceled).

Claim 8 (currently amended): A DC/DC converter for, through the opening and closing of a switching element, supplying power from an input power supply, via a coil, to an output terminal connected to a load, and adjusting ~~the~~a voltage of the output terminal, the DC/DC converter comprising:

a coil current detection element interposed between the coil and the output terminal, and arranged to generate, in a terminal connected to the coil and a terminal connected to the output terminal, a detection voltage in response to a coil current;

a smoothing capacitor connected to the load side of the coil current detection element to smooth the voltage of the output terminal;

a reference current value control circuit arranged to detect the voltage of the coil side of the coil current detection element and to control a reference current value of a current flowing in the coil; and

a feedback circuit having an offset voltage generator arranged to generate an offset voltage that corresponds to the reference current value in response to an output voltage of the reference current value control circuit, and arranged to close the switching element in synchronization with a reference clock signal of a clock signal generator, in synchrony with a reference clock of a clock generator, close the switching element, and open the switching element in response to comparing the detection voltage with the offset voltage when the current flowing in the coil exceeds the reference current value.

May 4, 2009

Reply to the Office Action dated February 5, 2009

Page 3 of 7

Claim 9 (previously presented): The DC/DC converter according to claim 8, wherein the coil current detection element is a coil current detection resistor.

Claim 10 (previously presented): The DC/DC converter according to claim 8, wherein the smoothing capacitor is a ceramic capacitor.

Claim 11 (previously presented): The DC/DC converter according to claim 8, wherein an equivalent series resistance value of the smoothing capacitor is smaller than that of an electrolytic capacitor.

Claim 12 (previously presented): The DC/DC converter according to claim 8, wherein the resistance value of the coil current detection element is larger than the equivalent series resistance value of the smoothing capacitor.

Claim 13 (previously presented): The DC/DC converter according to claim 8, wherein the zero frequency of a frequency characteristic is determined by the coil current detection element and the smoothing capacitor.

Claims 14-18 (canceled).